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PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

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Applicant's or agent's file reference <b>JH/m1 003235</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/EP 00/12886</b>	International filing date (day/month/year) <b>18/12/2000</b>	(Earliest) Priority Date (day/month/year) <b>16/12/1999</b>
Applicant <b>GROMOLL, Jörg et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 5 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☒ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/12886

**A. CLASSIFICATION OF SUBJECT MATTER**

IPC 7 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ, MEDLINE, BIOSIS, EMBASE, CHEM ABS Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HEIKOOP J C ET AL: "Infertility treatment by recombinant FSH" JOURNAL OF BIOTECHNOLOGY, ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM, NL, vol. 61, no. 3, 13 May 1998 (1998-05-13), pages 233-236, XP004128060 ISSN: 0168-1656	11
Y	the whole document	1-5,7,9, 10
Y	BEN-RAFAEL Z ET AL.: "Pharmacokinetics of follicle-stimulating hormone: clinical significance" FERTILITY AND STERILITY, vol. 69, no. 3Sp2, March 1998 (1998-03), pages 40S-49S, XP001023707 the whole document	1-5,7,9, 10
	--- -/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

\*A\* document defining the general state of the art which is not considered to be of particular relevance

\*E\* earlier document but published on or after the international filing date

\*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

\*O\* document referring to an oral disclosure, use, exhibition or other means

\*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&amp;\* document member of the same patent family

Date of the actual completion of the international search

5 September 2001

Date of mailing of the international search report

12/09/2001

Name and mailing address of the ISA

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP 00/12886

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>CONWAY G.S. ET AL.: "Mutation screening and isoform prevalence of the follicle stimulating hormone receptor gene in women with premature ovarian failure, resistant ovary syndrome and polycystic ovary syndrome"</p> <p>CLINICAL ENDOCRINOLOGY, vol. 51, July 1999 (1999-07), pages 97-99, XP000920627 cited in the application the whole document</p>	1-5,7,9
Y	<p>--- SIMONI M. ET AL.: "Mutational analysis of the follicle-stimulating hormone (FSH) receptor in normal and infertile men: identification and characterization of two discrete FSH receptor isoforms"</p> <p>JOURNAL OF CLIN. ENDOCRINOLOGY AND METABOLISM, vol. 84, no. 2, - February 1999 (1999-02) pages 751-755, XP000920695 cited in the application * see especially page 752, column 1, paragraphs 3-4 * the whole document</p>	1-5,9,10
Y	<p>--- WO 97 11194 A (UNIV HELSINKI LICENSING ;CHAPELLE ALBERT DE (FI); AITTOMAEKI KRIST) 27 March 1997 (1997-03-27) the whole document</p>	1-5,9,10
A	<p>--- JIANG M ET AL.: "The frequency of a inactivating point mutation (566C-T) of the human follicle-stimulating hormone receptor gene in four populations using allele-specific hybridization and time-resolved fluorometry"</p> <p>JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, vol. 83, no. 12, 1998, pages 4338-4343, XP001023798 the whole document</p>	
A	<p>--- LAYMAN L C ET AL.: "The Finnish follicle-stimulating hormone receptor gene mutation is rare in North American women with 46,XX ovarian failure"</p> <p>FERTILITY AND STERILITY, vol. 69, no. 2, 1998, pages 300-302, XP001023705 the whole document</p> <p>--- -/--</p>	

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International Application No

PCT/EP 00/12886

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>GROMOLL J ET AL: "AN ACTIVATING MUTATION OF THE FOLLICLE-STIMULATING HORMONE RECEPTOR AUTONOMOUSLY SUSTAINS SPERMATOGENESIS IN A HYPOPHYSECTOMIZED MAN"</p> <p>JOURNAL OF CLINICAL ENDOCRINOLOGY AND METABOLISM, NEW YORK, NY, US, vol. 81, no. 4, 1 April 1996 (1996-04-01), pages 1367-1370, XP000609740 ISSN: 0021-972X the whole document</p>	
A	<p>WO 98 34948 A (CORNELL RES FOUNDATION INC) 13 August 1998 (1998-08-13) * see especially SEQ ID NO:25 * abstract</p>	

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/EP 00/12886

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9711194 A	27-03-1997	US 5851768 A AU 6990296 A	22-12-1998 09-04-1997
WO 9834948 A	13-08-1998	AU 6149898 A EP 1015478 A	26-08-1998 05-07-2000